ABSTRACT OF THE DISCLOSURE

INCREASING MEMORY LOCALITY OF FILESYSTEM SYNCHRONIZATION OPERATIONS

A cache class in a software-administered cache of a multiprocessor is assigned cache space that is localized to a single region of a memory and is contiguous. Synchronization and LRU operations can step sequentially through the given region, removing the need for SLB searches or the penalty for a miss, while other threads remain random access. The threads that manage each virtual memory area can then be attached to specific processors, maintaining physical locality as well.